Developing practices in teachers' professional dialogue in England; using Coaching Dimensions as an epistemic tool

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This paper demonstrates how teachers who were working in a range of developmental relationships with researchers used coaching dimensions to understand, describe, analyse and improve the quality of their coaching and mentoring conversations. The findings are based on analysis of transcriptions of case studies of one-to-one professional dialogue practice. The dimensions of coaching provide a language and mechanism through which teachers can analyse and reflect on their 'coaching' practice. They can act as a metacognitive tool for teachers, providing them with the opportunity to engage with the complexity of their practice. Such self-knowledge enables productive practice development, and an ability to talk with peers about how their practice is developing. This can help teachers to plan for, and be more responsive within coaching or mentoring meetings. Use of the dimensions allows the relationships between the nature and the intent of practice to be explored and may help to clarify the roles of different types of professional dialogue, securing them within CPD structures in schools. As relationships and trust within coaching and mentoring partnerships can be vulnerable, gaining greater awareness of the significance of the semantics of the dialogue can support the participants to match intent with outcome.

Keywords: coaching; mentoring; professional dialogue, coaching dimensions, epistemic tools

Background

In educational contexts there is limited time for all forms of teachers' professional development. It is therefore critical that where time is directed for coaching, mentoring or other forms of professional dialogue it is well used and productive. Conditions need to be conducive to professional dialogue, and participants need to be aware of how to use the dialogue to best effect. Pedder *et al.* (2008) found that the common experience of teachers' CPD is that it is not collaborative or sustained and tends to involve passive forms of learning. They also found that teachers in the highest performing schools had

more variety and better experiences of professional development, including coaching, mentoring and observation, whilst teachers in lowest achieving schools experienced more in-school workshops. Higher quality CPD (Cordingley *et al.* 2005) is located in and gives rise to *purposeful professional dialogue*: a process in which teachers can maintain an awareness of their learning and be attuned both to evidence of changes to content and pedagogic knowledge as well as to the impact on professional and personal identity that can be revealed through the conversations themselves. Dialogue is recognised as an essential component of what Kemmis and Heikkenen (2012) propose as a 'Theory of Practice Architecture' creating 'semantic space' in which practice unfolds and work is undertaken.

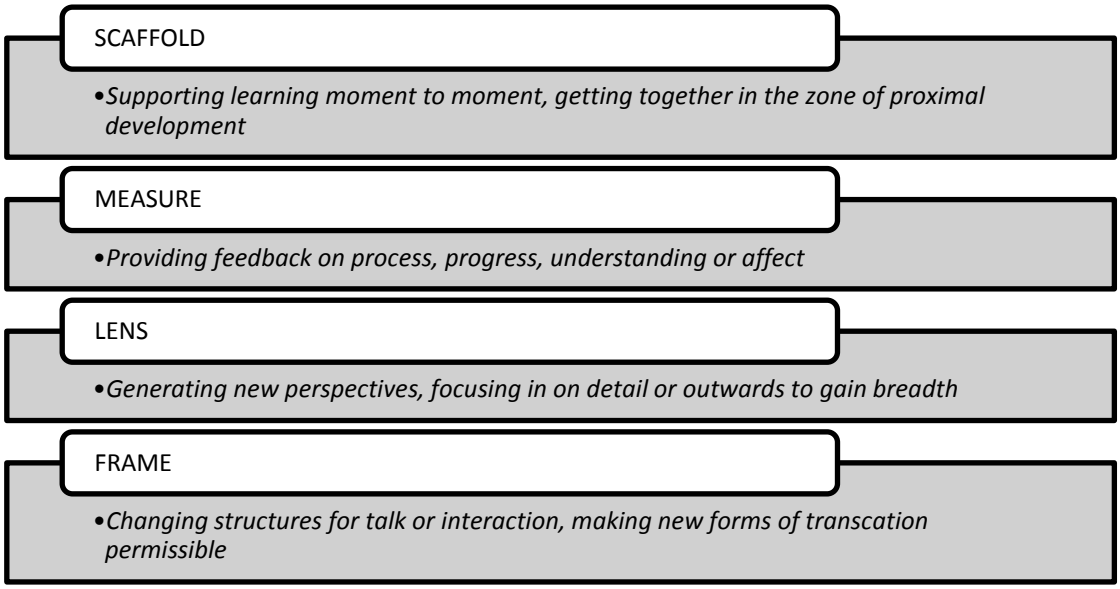
In our earlier research known as the 'Improving Coaching' project (Lofthouse e*t al.* 2010a) funded by CfBT and NCSL, we found evidence that coaching was reported very favourably by participating teachers, provided that they had the means by which to 'work on' their practice; and tools with which to improve the quality of their mentoring or coaching. However, the implementation and management often caused significant friction in schools and an analysis through the lens of Engeström's Cultural Historical Activity Theory (Engeström 1999 cited in Lofthouse and Leat 2013) reveals that coaching is often working as a different activity system to the endemic system underpinned by performativity, or that it creates a contradiction with the existing system. This makes coaching vulnerable in at least two ways; it can have its purpose purloined as part of a movement dominated by surveillance and performance management, and it can have its potential flattened because participants are afforded insufficient time to develop sophisticated practice. Similarly mentoring (for example of student teachers) can be distorted towards 'judgementoring' (Hobson and Malderez 2013), when mentors can compromise mentoring relationships and its potential benefits by being prone to quickly forming and sharing with their mentees evaluative judgements of their mentees' practice. In their study drawn from a mentor 'education' programme in Norway, Ulvik and Sunde (2013) recognise mentoring as a 'fluid concept' with an 'intuitive nature' (p. 755), but propose that mentoring be seen as a profession within a profession, and be explicitly based not just on know-how and experience, but also on theoretical perspectives. In this paper we offer an exploration of the range and quality of professional dialogue through the intentional use of a tool, the Coaching Dimensions.

We conceptualise tools as Deweyan 'technologies' (1938), socially constructed artefacts which allow teachers to engage with their practice at a number of levels and crucially, at the level which has the most immediate use to the individual and their enquiry. In this we make a critical distinction between tools and 'toolkits' in which the formulation of the question and the solution are pre-set. In contrast

> a tool is also a mode of language… so intimately bound up with intentions, occupations and purposes that they have an eloquent voice (Dewey 1938, p. 46).

Tools (such as the dimensions for analysing professional conversations) have the epistemic quality of revealing their properties under the questioning gaze of the user (Knorr Cetina 2001). Some of these properties in earlier work (Hall, 2011, see Figure 1 below) have been described and we will use these descriptors to differentiate between the use of the tool in the case examples that follow.

Figure 1. Descriptors of purposes to which tools are put (Hall, 2011)



This paper draws on four specific cases of teacher-teacher dialogue, all situated in secondary schools in England. The focus of each case is the detail of conversations and how they were analysed using the Coaching Dimensions outlined below. The issue is thus one of the practices of the dialogue itself and of the Coaching Dimensions as a tool for practice development.

Coaching Dimensions as a tool

The Coaching Dimensions were initially developed as a framework for analysing the coaching and mentoring conversations during the research project described above (Lofthouse *et al.* 2010a, 2010b, Leat *et al.* 2012). In this work 27 coaching conversations were transcribed for analysis. The coding which was developed by the research team was reviewed and validated with the coaches whose conversations were analysed. *Dimensions* of coaching conversation were defined through iterative process. Some elements of the dimensions had been proposed by the researchers prior to detailed coding (based on experience of working with teachers who were developing coaching practices while studying for a Masters in Education); other dimensions became obvious as the transcriptions were analysed. These dimensions proved valuable as a means of characterising the content, processes and outcomes of the coaching sessions. The dimensions and subcategories were as follows:

(1) *Initiation* – recognising which participant was responsible for each new section or unit of analysis in the conversation (usually consisting of several conversational 'turns'). This is significant is developing a sense of 'ownership' within the coaching conversation.

(2) *Stimulus* – noting what evidence or stimulus was cited to support the conversation. Typical examples of stimuli included video extracts, lesson plans, recall, observation, attainment data, and pupils' work. The use of stimuli helps to root the conversation in practice evidence and can help to challenge the assumptions and perceptions held by the participants.

(3) *Tone* – rated on a five point scale from very negative, through neutral to very positive. The tone adopted can suggest a hidden agenda, an emotional state or a learned behaviour.

(4) *Scale* – rated from 1 to 5 in terms of the scope of the unit of discussion, 1 relating to critical moments, 2 related to lesson episodes, 3 to the lesson as a whole, 4 to teaching and learning themes crossing lesson boundaries and 5

relating to wide school or societal issues. The use of scale determines the scope of the discussion, and where participants make links across the scales indicates enhanced reflection.

(5) *Time* – recognising four time references depending on whether the segment referred to the planning of the lesson (past), to the lesson events, to future specific lessons and finally to no specific time reference. An indication of relevant time-frames is indicative of the way participants seek links between experiences and planning, and suggest the potential of coaching for future practice.

(6) *Interaction function* – noting that each 'turn' in the conversation serves a function, 17 sub-categories of the conversational function were identified; capturing elements of the purposes, processes and outcomes of interaction. The range of functions included question, explanation, evaluation, challenge, and suggestion, summary, context, dissonance, suggestion, defence and acceptance. Patterns of interaction tend to exist. Table 1 summarises the interaction functions identified in the original research.

(7) *Co-construction* – usually occurring over a number of ‘turns’ which are characteristically short and where the participants in the coaching or mentoring conversation are collaboratively developing an idea, building on the successive contributions of their partner. In the original research this was not common but did mark more productive coaching conversations as co-construction indicates cognitive development occurring within the conversation. It is the point at which reflection and learning through coaching is greatest.

Table 1. The interaction functions

Interaction Function ***(can be used by either coach or coached teacher)***	**Explanation of function** ***(indicate the purposes, processes and outcomes of interaction)***
Question	Genuine question (excluding rhetorical questions)
Observation	Statement of what had been observed in practice
Acceptance	Acknowledgment of situation, idea or conclusions
Evaluation	Using evidence or experience to make a judgement
Summary	Brief overview of previously stated information
Challenge	Not accepting statement, idea or explanation
Suggestion	An idea or strategy for possible future use
Continuity	A contribution that keeps the talking and thinking going
Defence	Resistance of partner's statement or evidence, not accepting relevance or validity or existence of a potential issue/challenge
Dissonance	An indication that an established idea or routine have been challenged by experience or in conversation
Clarification	Providing detail or substantiation
Description	Outline of classroom events or planning processes
Explanation	Offering reasons for events and actions
Justification	Giving reasons that relate to personal decisions in planning or action
New idea	Expressing what seems to be a new idea, either connecting things or resolving a dissonance
Generalisation	Offering a more abstract or general idea that applies beyond the particular lesson context
Context	Description of the learning situation or environment

Methodology and introduction to the cases

The cases included in this paper are from four sources of practice, each subject to empirical enquiry. Table 2 summarises the characteristics of each case study.

Table 2 Details of the four cases of professional dialogue practice

Case	*School characteristics*	*Individual role*	*Stated intention for engagement in research process*	*Specific method*
1. Jenny	Secondary 'Teaching School' with a culture of coaching for staff development.	Jenny is not part of established coaching team and is relatively inexperienced as a coach. She coaches two colleagues, one in her subject department, and one not.	Jenny completed her practitioner enquiry dissertation focused on improving her skills as a pedagogic coach.	Jenny video-recorded all coaching sessions. The pre-lesson ones were analysed without transcription identifying key characteristics using her own 'quick guide'. The post-lesson ones were for full analysis using the coaching dimensions. Jenny transcribed and analysed her practice prior to planning for subsequent conversations.
2. Jane	Secondary school for children with learning difficulties and additional emotional and behavioural needs. Coaching is not used in the school.	Jane has responsibility for behaviour support in the school; she has not used coaching in this role prior to her research. She coaches two colleagues to support them in managing the behaviour of specific	Jane completed her practitioner enquiry dissertation focused on developing an understanding of the potential of coaching to support behaviour management and to track her skills development as a	Jane video-recorded and transcribed all coaching sessions. These were transcribed and analysed using the coaching dimensions post-hoc, in order to track patterns of dialogue over time.

			pupils.	coach.	
3.	Louise	Secondary 'Teaching School' (not the same school as case 1) regularly offering placements to a large number of initial teacher education students.	Louise has some experience of mentoring student teachers. She mentors a student during the long 11 week final assessed placement.	Louise completed her practitioner enquiry dissertation focused on the value of a number of lesson observation tools for prompting productive professional dialogue during mentoring sessions.	Louise audio recorded mentoring meetings. She adapted the 'quick guide' technique developed by Jenny (case 1) and written up in her dissertation to analyse 'episodes' of dialogue from the recordings. She related her analysis to the type of lesson observational tool used as the basis for mentoring discussion.
4.	Mary & Linzi	Secondary school using 'sharing good practice' (SGP) based on paired professional dialogue and lesson observation as CPD for improving teaching and learning.	Mary and Linzi are departmental colleagues working as reciprocal SGP partners over the course of one academic year.	Mary and Linzi were participants in a small scale research project investigating the characteristics of professional dialogue across a number of contexts.	Mary and Linzi video-recorded two SGP conversations. These were transcribed and analysed by the research team prior to being reviewed with Mary and Linzi during a focus group as part of a reflective cycle.

As illustrated in Table 2 despite becoming the attention of this research these case studies of practice were naturally occurring, either as part of a initial teacher education, continuing professional development, or as the means by which specific teachers chose to enact their responsibility or engage in personal career and scholarly development. Purposeful sampling was used in selecting these cases. This was possible because the analyses of the dialogue in each were the results of deliberate actions taken by participants in the practice based on their 'ethic of respect' (Bassey 2012) for those

that they are working with. In other words the practitioners wanted to be 'good' coaches, mentors and colleagues; and were interested in how their professional dialogue could be understood and improved. This paper is not intended to represent each case in full, and the cases are not offered as typical of teachers engaging in coaching or mentoring. However, as snapshots of practice they offer the potential for 'generalisation through recognition of patterns' (Larsson 2009, p. 28) in respect of our enquiry question:

> *In what ways can the Coaching Dimensions as a tool support individual teachers to develop, understand and improve their practices of professional dialogue?*

The teachers were not acting independently; instead they were in a reciprocal relationship with one or more of the paper authors. We had been members of the research team of the completed 'Improving Coaching' project, and as such had a procedural and conceptual familiarity with the Coaching Dimensions. In case studies 1, 2 and 3 the teachers were acting as a coach or mentor and drawing on this experience for a Masters qualification (one in each of the years 2011, 2012 and 2013). One author supervised Louise and the other supervised Jenny and Jane. Each teacher made their own decisions about how to use the coaching dimensions as part of their analysis of practice. The data from these cases studies was thus drawn from the teachers' research and reflections as articulated in their dissertations. Case study 4 was situated in a school in which one-to-one conversations and lesson observation between teachers was part of a programme of 'sharing good practice'. This case was part of a university-funded research project undertaken by the co-authors which focused on two research questions: *1) What similarities and differences exist in teacher coaching and mentoring dialogue, and can these be explained in relation to the purpose of the each activity?* 2) *To what extent do teachers acting as coaches and mentors recognise a relationship between the specific purposes of their professional development activity and dialogue produced?* As project participants the teachers participated in a focus group in which the transcripts of their discussions (transcribed and initially analysed by the researchers) were used as a stimulus for discussion to allow research outcomes to be co-constructed between practitioners and researchers. The focus group was also recorded and transcribed. The coded transcript, interview and focus group data from the research project form this fourth case study.

Each of the teachers represented here was thus engaged in developing new practices and practical knowledge and in turn was curious about the means by, and degree to, which the Coaching Dimensions made this possible. There is an authenticity in their work, a genuine sense of solidarity with the colleagues with whom they worked, and an enthusiasm for sharing their experiences with the authors (as supervisors and researchers). The teachers' first names have not been changed; and where appropriate their own written work is cited. Evidence from each case is discussed in turn, privileging the individual teachers' experiences and voices. Following the cases emerging themes are reviewed and consolidated.

Case 1: Jenny – Developing as a coach

This case study (Stewart 2011) is based in a secondary school which was also a location for research in the 'Improving Coaching' project (Lofthouse *et al.* 2010a), although Jenny (the coach) was not involved in that research. Jenny had completed an M.Ed module focused on coaching, during which the dimensions of coaching talk were introduced, and chose this area as the focus for her dissertation. At that time she was in her fourth year of teaching, and keen to develop a role in the well-established Teaching and Learning team and within the school's new status as a 'Teaching School'. Coaching and mentoring is frequently practiced in this school and there are a team of trained coaches. This secure contextual basis allowed Jenny to set up two phases of coaching. Each phase was with a different partner (coachee), and each involved two coaching cycles of pre-lesson meeting, lesson observation with video-recording and post-lesson coaching. This activity allowed Jenny to record 8 coaching meetings and analyse them in relation to the dimensions. Her intention was to use her research to track her development as a coach and to support development of her coaching practice.

To illustrate how Jenny used the Coaching Dimensions to support the analysis and desired development of coaching practice over time, several examples from her data are discussed below. Jenny has used the coaching dimensions primarily as a scaffold, bridging her own and her coachees' understanding of the process in an overtly developmental way. In the first example a comparison is made of the dialogue in relation to interaction functions across the post-lesson coaching sessions with coachee A (a member of her department), as illustrated in Table 3.

Table 3. Case study 1 (Jenny), Interaction Functions in post lesson coaching with coachee A

Coaching Coachee A	**Cycle 1**			**Cycle 2**		
Number of interaction functions	Coach	Coachee	TOTAL	Coach	Coachee	TOTAL
Questions	11	2	13	15	2	17
Evaluation	1	7	8	3	10	13
Explanation	8	4	12	20	7	27
Summary	3	1	4	13	1	14
Clarifying	5		5	5		5
New Idea	4	3	7	1	3	4
Context				7	1	8
Acceptance					6	6
Dissonance					2	2
Challenge						
Justification				2		2
Suggestion					1	1

The extracts (1 & 2) below are from Jenny's discussion in her dissertation. They show her analysis of the data in Table 3 related to interaction functions across the two coaching cycles, and also her reflections on how she is beginning to use and personalise the dimension coding as a means to make sense and develop her practice.

- ***Extract 1: Coachee A Cycle 1***

    - *Lofthouse et al. (2010a p.20) described that coaches mainly question and evaluate, whereas coachees tend to evaluate, clarify and explain. This is*

similar to what I found in my research, however the evaluation was not as balanced between myself and coachee A as Lofthouse et al. found. In my example the coachee evaluated more, however I did not take this evaluation and move it into an area of challenge for the coachee, which would show a higher level of coaching performance. The main area of interest that I noticed from the research was the limited interaction functions from my coaching conversation compared to others. This may indicate my novice level at this stage, as Lofthouse et al. have found an advanced coach who is an 'active cognitive partner' will engage with more interaction functions during the course of the coaching dialogue than a novice coach whose main interaction function is predominantly questioning.

- ***Extract 2: Coachee A Cycle 2***

    - *There was a greater variety of interaction functions indicating it was a much more active coaching conversation and my repertoire is expanding. Although the coachee was unprepared, asking him to come to the session with a focus was useful and allowed him to be a more active participant in the conversation; this is one reason for the increased interaction functions. Coachee A is evaluating and explaining more in this cycle showing that he was increasingly engaging with the coaching process. I did a lot of explanation in this conversation as my thoughts and ideas were explained. I also questioned to encourage the coachee to reflect upon the lesson. There were examples where the coachee and I are saying the same thing, showing a strong partnership developing with the beginnings of co-construction.*

The personalisation or modification of the 'tool' illustrated described above is significant; and is explained by Jenny in her dissertation as follows;

> As I became more competent at using the coaching dimensions I began to see overlap between some of the dimensions. For example, the distinction between a new idea and suggestion - which are essentially very similar functions. After some reflection, I decided that in order to allow my analysis to be performed in a structured way new ideas would be linked to ideas that the coachee put forward and any ideas suggested by the me would be classified as suggestions in future analysis. (Jenny)

The adaptation (triggered by reflection on the practices of both coding her own coaching conversations and deliberately using her conclusions to plan for subsequent

coaching) reinforces the use of the tool to 'scaffold' her own learning and practice development. Tools being used as scaffolds are dependent for their impact on this potential for personalisation (Vygotsky 1978; Bruner 1984) so that the learner can negotiate the 'best fit'.

Following her engagement with coachee A Jenny began to work with coachee B (a teacher in another department). She was keen to build on her experience and extend her repertoire. She was aware of the significance of 'challenge' and thus included it in her table of interaction functions (see Table 4 below) despite not identifying any examples in her transcripts.

Table 4. Case study 1 (Jenny), Interaction Functions in post lesson coaching with coachee B

Coaching Coachee B	**Cycle 1**			**Cycle 2**		
Number of interaction functions	Coach	Coachee	TOTAL	Coach	Coachee	TOTAL
Questions	5		5	11	1	12
Evaluation		6	6	3	10	13
Explanation	3	4	7	4	3	7
Summary				10	1	11
Clarifying	3	1	4	4		4
New Idea		3	3		5	5
Context	2		2	1	2	3
Acceptance					1	1
Dissonance					1	1
Challenge						
Justification	1	1	2	1	1	2
Suggestion	3		3	3		3

Extracts 3 & 4 below from Jenny's dissertation demonstrate her analysis of her coaching and how she feels about her developing practice. In her final analysis it is clear that she feels more confident about her role in supporting the coachee to be self-reflective and is able to examine the ways that the pattern of interaction functions feeds into the quality of conversation.

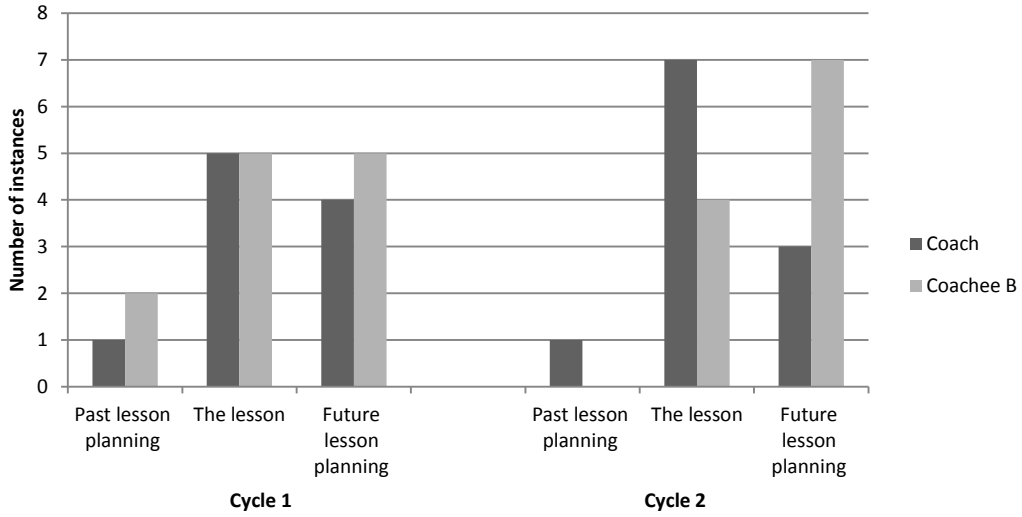
- ***Extract 3: Coachee B Cycle 1***
    - *What is clear in this cycle is that I succeeded in encouraging the coachee* [a new partner] *to evaluate and explain more. Another strength of the conversation was that in terms of new ideas and suggestions there is a balance between the coach and coachee showing that the coachee was taking responsibility for his own development. This again shows that coachee B was more reflective than coachee A and came to the discussion ready to reflect in depth and discuss areas for development. As a coach, my own practice was as I would expect in terms of a focus on questioning, explanation, clarifying and suggestions. Again, challenge is missing from the interaction functions [...]. Also missing from this cycle was summary and dissonance/acceptance. The fact that these were missing does not indicate a low level coaching conversation, however, to achieve the highest level of coaching dialogue you would expect to find elements as a key part of the conversation. Challenge would be a beneficial component of the conversation with this coachee in particular as he was responsive to the coaching process.*

- ***Extract 4: Coachee B Cycle 2***
    - *If a direct comparison to the interaction functions of coachee B cycle 1 is made then it was obvious that there was a wider range of functions in cycle 2. This indicates a more developed and high level coaching conversation. I, as the coach, spend a lot of time questioning and summarising whereas the coachee was mainly involved in evaluating and generating new ideas. This is exactly what I would hope to find in a coaching conversation, as when the coachee was evaluating he was being reflective and this is how meaningful change to professional practice occurs. [...] The result of such active evaluation by the coachee is that he was able to generate new ideas to develop his practice without many suggestions needed from me. In this cycle it was interesting to see that unlike the previous cycle I also evaluated the ideas of the coachee. This shows that co-construction is occurring, as the coachee and I start to develop ideas and examine beliefs together. [...] Dissonance and acceptance occurred*

in this cycle although challenge was still missing. The dissonance and acceptance indicate that a challenge to beliefs has occurred and as a result of this the coachee may experience a shift in beliefs, resulting in a change to pedagogical practice.

As a final example of the use of the framework of Conversation Dimensions as a scaffolding tool for understanding and promoting the development of coaching the second phase of Jenny's coaching (with coachee B) is focused on. In this case it is her analysis of the time-frames referred to during the post-lesson coaching conversations that is illustrated. Jenny adapted the dimensions in relation to time-frame, and noted the number of times the coach and coachee each referred to planning the lesson that had been observed (past actions), the lesson itself, and future planning. Figure 2 shows the emerging patterns and extract 5 is her analysis of them.

Figure 2. Case study 1 (Jenny) Time-frame references in post-lesson coaching, coachee B



- ***Extract 5: Coachee B Cycle 2***

    - *This highlights the scale of the conversation was widening and he was starting to see how the reflections from the coaching cycles could impact upon more than one class and as a result alter his practice. I revisited lesson events to focus reflection and was not involved to as great an extent in future planning. This means that I was allowing the coachee to come up with his own development plans. The results are indicative of a high-level coaching dialogue as the coachee focuses his attention on future practice developments.*

This relatively simple data demonstrates a subtle shift between the two coaching conversations, which was identified by Jenny in her analysis. While there may have been scope for greater links being made between the planning and teaching time-frames of the lesson which had been observed Jenny was pleased that in the second cycle coachee B 'was more involved in future planning than focussing on past events'.

The data and extracts above are snapshots of a significant data set collected by Jenny to help her to scrutinise her own practice as a coach. They demonstrate the potential role of analysing dimensions of coaching dialogue in helping coaches to internalise the qualities of coaching and develop more conscious and productive practice.

Case 2: Jane – Introducing specialist coaching in a sensitive context

Jane also used the coaching dimensions to help her to analyse her own practice development as an inexperienced coach, but in this case study the analysis was conducted as a summative process after having conducted two cycles of coaching with each of two colleagues. Jane was aware of the sensitivity of her use of coaching, choosing to trial it as a means of facilitating her role as behaviour support in a special school, and not fully confident of its efficacy in this novel context. Using a purposive perspective, we understand Jane's use of the coaching dimensions primarily as a measure and in contrast to the flexibility needed when the tool is used as a scaffold, the dimensions were treated as a stable entity in order to provide a consistent reference point. They provided timely and instructive feedback to the coach and the coachees and allowed both for the structured focus on development and for the affective bonus of awareness of mastery and increased motivation. In her analysis and reflection she demonstrated an acute awareness of the relative brevity of her coaching conversations, and felt that they were not immediately as transformative as she would like them to be. However it was apparent that the Coaching Dimensions offered one way to 'pin down' the characteristics of her coaching. Jane's awareness of previous research findings (Lofthouse *et al.* 2010a) enabled her to compare her practice with that of others. This prompted her to consider the reasons for the variations that she found; and to reflect on the function and value of her coaching conversations. This is illustrated by the following extract from her dissertation,

> Eight coaching dimensions, made it possible to analyse the coaching conversations. Without this tool it would have been difficult to analyse and compare the conversations with each other and with conversations from other research. My first coaching conversation included a large number of different 'interactive functions' more than Lofthouse *et al.* (2010a) found to be the norm. There was potential to develop this and include some co-construction, a mark of productive coaching (Lofthouse *et al.* 2010a). However, due to the necessity to keep the coaching conversation to the point and short, it was not possible to spend time developing this function or others. From this point the variety of 'interaction functions' reduced. The decision was made to sacrifice the length of the coaching conversation, and therefore, the potential of developing my coaching practice, to reduce the psychological pressure on the coachees. Even with a reduced length of coaching conversation, reflection still occurred, and a positive change in coaching focus was evident in both cases. So maybe in an environment deprived of collaboration and professional dialogue, the main ingredient needed in the coaching process to bring about a change, is time. Time to talk about specific issues, and devise a plan of action. Coachee B verbalises this well, when she explains what it was about the coaching that brought about the changes: "It was the communication really and the fact that we discussed it together and focussed on the issue".

Jane's case shows how using the Coaching Dimensions as a measure enabled her to recognise characteristics and challenges of her emerging coaching practices in an environment and role where coaching had not previously been deployed. Using data from a larger research project and comparing it with her unique data (influenced by her newness to the role and the specific school environment) Jane was able to be both realistic and ambitious; and to be able to explain to senior leaders not just that more time was needed, but what difference that time could make to the quality and potential impact of coaching.

Case 3: Louise – Thinking about mentoring dialogue using coaching dimensions

Louise was mentoring a PGCE student and used this experience as the basis of her research for her M.Ed dissertation. Her area of interest was lesson observation and debrief, and she wanted to test out the extent to which different observational frameworks offered opportunities for what she termed 'self-reflective professional

dialogue'. The Coaching Dimensions provided the analytical tool, and also a basis for linking conversational features with certain types of thinking. Thus Louise used the dimensions as a lens, re-interrogating the same pieces of data from different perspectives over multiple time points. Her own data analysis involved her audio-recording mentoring meetings which focused on lesson observation debriefs, and reviewing these to develop her own categorisation of units or episodes of conversations. She does state that on occasions she had to listen to the same episodes several times in order to make her coding decisions, but this helped her to determine an effective set of working definitions for the categories of talk she was interested in. In this case study, then, Louise was making critical use of the dimensions. For example, she described 'types of interaction as being on a continuum' and recognised which interaction functions she considered to be 'inward focused' (such as *description* and *justification*) and which she considered to be 'self-reflective' (such as *challenge / disagree* and *co-construction*). She also became interested in 'time-scales', wanting to prompt her student to project forward rather than typically recall and review already taught lessons. She saw this as crucial if her student teacher was to make substantial progress as a result of pre-considered action. Her use of the Coaching Dimensions allowed her to determine which observational tool was most likely to lead to conversations which were forward looking. Another example of her analysis was based on the 'scale' aspect of the coaching dimensions tool, as shown in Table 5.

Table 5. Case study 3 (Louise) 'Scale' of episodes in mentoring discussions related to the use of four observational tools

Lesson observation tool	***% frequency of 'Scale' of discussion focus***				
	Wider educational issues	School issues	Pedagogical issues	Lessons as a whole	Critical moments
Lesson evaluation	0	4.0	54.5	30.5	11.0
Behaviour management tally	5.0	0	28.5	52.5	14.0
Use of video	6	0	27.0	17.0	49.0
Questioning tally	0	0	55.5	31.5	13.0

Using the tool as a lens, she engaged critically with aspects of the dimensions in a different way from Jenny's personalisation. The changes in perspective encouraged her to generate a rich and deep understanding of the dimensions at a conceptual level and to question the way in which elements inter-relate, leading to an enlarged view of her role as a mentor, including but not exclusive to her student teacher's needs and on-going development.

Case 4: Mary and Linzi – Sharing good practice

The final case study is situated in a whole-school CPD approach known as Sharing Good Practice (SGP). The data derives from an initial SGP meeting that Mary and Linzi had to plan their classroom intervention (see Table 2 for project details). The video and transcription of this meeting were analysed by both members of the research project team (co-authors of this paper) and where there were divergences in coding, these were highlighted for clarification by the teachers. During a focus group meeting between the teachers and a researcher the researchers' joint initial analysis of both the video and annotated transcripts was reviewed allowing it to be validated or challenged by the teachers. The examples given in this section carry the coding on Scale and Interaction Function as these were felt to be the most significant by the researchers and the teachers (an interesting parallel with Louise's interests in case study 3). By the time of the focus group meeting Mary and Linzi had had their second SGP meeting, enabling the complexity of the relational aspects of the work to come to the foreground. The use of

the tool as a frame in this instance created a space for the teachers to reflect on how their relationship worked – not simply in the broad generalisations of 'we get on' but in a more nuanced understanding of how the interaction functions drive the content of their conversation and how their tone and tempo reflect, support and shape their mutual learning. This detailed analysis of successful interaction is something that is rarely given time and space in any professional context, yet it is crucial to translating dialogic practice into new relationships and contexts (Knezic *et al.* 2010).

In this first extract (shown in Table 6), Linzi and Mary are setting out the parameters of their SGP and using an experience from the classroom to explore feelings of dissonance. The quality of the dialogue is evident: moving across scales from episodes to explorations of pedagogy and classroom interaction and covering a range of interactions.

Table 6. Case study 4 (Mary and Linzi) Coded transcript [extract 1]

Speaker	**Dialogue**	**Coding**	
		Scale	**Interaction function**
L1	Yeah, so we said we'd start by just maybe talking about our experience so far with pupil-pupil dialogue	4	Explanation
M1	Yes	4	Acceptance
L2	I tried it, a lesson with Year 9.. middle ability, a couple of weeks ago which was NOT incredibly successful. So what I did was I gave them group work and I spent a lot of the time not having a lot of input but watching to see what they did and how they interacted. A number of issues were highlighted in that short, and it was only a five, ten minute period of the lesson, but a lot of issues were highlighted. I'd say one of the main ones that occurred to me was is I have them in a seating plan….	3 2	Summarising Dissonance
M2	So not in friendship groups?	3	Questioning
L3	So they were NOT sat with people they would necessarily be comfortable working with. Which meant that when they got into their groups, because I did say "you four turn round and you four" because it was logistically easier, I was met with a rather quiet classroom.	2	Clarification Dissonance
M3	Okay. So you think that if you tried it again in their friendship groups	3 - 4	Generalisation

	or chose them randomly maybe rather than a seating plan, that they might actually accept it better?		
L4	Yeah.	4	Acceptance
M4	So friendship groups maybe.	4	Suggestion
L5	Or certainly more planning into who they're actually working with.	4	Questioning
M5	So more planning…….specifically for……	4	Acceptance
L6	Yeah [both talking together]	4	Acceptance
M6	Group work. [both talking together]	4	Acceptance
L7	The thing is as we know from the work we've done on teacher dialogue, when you look at you know, being attentive, giving eye contact, paying attention is so important. And it wasn't there, so it's unlikely	5 2	New idea (in context)
M7	And they need to have a relationship for that, don't they really? For that to come easily to them.	5	Clarification
L8	Yeah. I wonder how effective it would be if they had a version of ***this**** at the beginning that said when we work together it is important that you give people eye contact. I think perhaps it's something that we maybe take for granted, and when you have a teacher pupil dialogue it's perhaps already there because of the nature of dealing with an adult, whereas it's not necessarily between two pupils. I wondered …….	4	Suggestion Dissonance
M8	So make pupils aware of this. Does it need to be put into their speak do you think?	4	Suggestion

The transcript affirms the degree of trust and comfort felt between the pair (and which is evident on the video extract): Linzi is able to bring her unsuccessful group work experience (L2) and does not become defensive when Mary asks her about alternate organisation. At the same time, she does not unthinkingly accept Mary's suggestion of friendship groups and leaves her options open (L5). The conversation then goes deeper than an exploration of procedural issues, looking at the inter-personal skills needed for effective collaboration and making a transfer between the learning that has been made explicit for the teachers in their SGP training and the awareness that is needed by the pupils in the classroom.

In the second extract (Table 7), Mary is reflecting on what has worked in successful group work for her. Although Linzi does not say much after the initial

stimulus questions, on the video her non-verbal support and attention supports Mary's theory-building. In M2 we can see her moving back and forth across scales and between explanations of her ideas and practice, hypotheses of what has been effective and why and a range of evaluative markers.

Table 7. Case study 4 (Mary and Linzi) Coded transcript [extract 2]

Speaker	Dialogue	Coding	
		Scale	Interaction function
L1	How do you choose the groups?	3	Questioning
M1	Just the way that they actually sort of seem to be friendly with each other.	3	Explanation
L2	Right	3	Acceptance
M2	Do you know? And certainly they work. It worked really well, they liked those groups and they're quite open with each other. I mean they're quite an open class anyway to talk to each other, and when we looked at the video their conversations were much more productive than I've had. Now whether that's because you know of the grouping, whether that's because it was a lesson where I had sort of, you know planned for it very carefully, but certainly the conversations they were having were the kind of conversations that we're looking for here, where they were exploring the subject for themselves in order to come to their own conclusion. Certainly the classroom talk was productive and at the end when they did an evaluation of the lesson, they said that it had actually helped them to learn, that they were sort of, you know banging their ideas off each other, so that was quite good.	2 4 3 2 3 2 2 3 2 4	Evaluation Explanation Evaluation Suggestion Suggestion Evaluation Evaluation Explanation Evaluation
L3	So that's definitely one thing to look at.	4	Acceptance

In the third extract (Table 8) Mary and Linzi have moved to the planning phase. Both have decided to trial new approaches to group work in their classes, focusing on raising metacognitive awareness of the skills needed to be an effective group member. The discussion has reached the point where they are deciding on how to evaluate the warrant of this approach and which tools to use to measure impact. On the video, their body postures angle closer together as they collaborate, the speed of their talk increases and their engagement and excitement become more obvious. While they talk simultaneously, there is a weaving of ideas rather than one dominating the other and there is no sense that ideas or perspectives are lost.

Table 8. Case study 4 (Mary and Linzi) Coded transcript [extract 3]

Speaker	Dialogue	Coding	
		Scale	Interaction function
L1	And how are we going to measure the success? Are you going to	3	Question/ Challenge

	video it, are you just going to watch it yourself and gauge it as opposed to how it was the last time? Is it the same group……..[both talking at the same time]		
M1	It is …… I wonder about maybe choosing a couple from each group and maybe I'll be asking them "how did you feel the first time we did it?" and then "what do you feel you got out of it the second time" ……[talking over each other]	3	Suggestion
L2	Yes, yes……..[talking over each other]	3	Acceptance
M2	I wonder if ……..[talking over each other]	3	Suggestion
L3	That would be good…… [talking over each other]	3	Acceptance
M3	I wonder if that would be interesting, because <u>obviously I haven't videoed the before bit</u>.	3	Questioning <u>Dissonance</u>
L4	So that would be good then, if you could get them to ……..[talking over each other]	3	Acceptance
M4	If I could get a couple to agree, if not I'll do it on paper, I'll get them a questionnaire maybe.	3	Clarification
L5	So pupils to self-evaluate and it MIGHT be that you're going to get them to actually do it verbally or it might be, if you think that's a bit too……..	3	Suggestion

Having spent time in the focus group, reviewing the coded transcripts with the researcher, and considering their dialogue in relation to the coaching conversations led both Mary and Linzi to consider the impact of such self-study. Uniquely amongst our case examples, these two teachers were not studying for an award but focused solely on practice development. Thus, their engagement with the framework could be argued to be the most authentic from a practitioner perspective, since they did not have to give time to elements that did not help their practice for the sake of an external assessment. We consider it significant, therefore, that Mary and Linzi did not work with only the most accessible aspects of the framework but used Scale and Interaction Function – both abstract and higher order conceptual elements - in order to dig into the phenomenological experience of coaching through tone and non-verbal interaction. In their analysis, the processes of reflecting on what had worked and what had made both teachers attuned to the nature of their collaborative practice and, they believed, better prepared for collaborative work with others (colleagues and student teachers teachers) in the future.

Discussion; emerging themes

Practices of coaching, mentoring and sharing good practice through one-to-one conversations are, to an extent, a natural extension of teachers' work. However, going beyond staffroom conversations, which are often based around anecdotes and emotive responses to teaching experiences, and developing a culture of truly productive collegial dialogue for professional development can be troublesome. Most teachers' propensity to teach is tenacious; thus professional dialogue can be dominated by retelling accounts of one's own practices in lieu of considered advice or a prompting of reflection. When they are first introduced to coaching *per se* the concept of 'restraint' recognised as critical for creating thinking space and opening up dialogue (Jewett and MacPhee 2012) can be misconceived and result in non-committal conversations in which the coach offers no opinion, instead requiring the coachee to self-evaluate, but gain little feedback or support for deeper reflection. This is often in stark contrast to the practice of mentoring student teachers or new entrants to the profession through a series of pre-determined and externally derived standards; which can lead mentors into the 'judgementoring' scenario described by Hobson and Malderez (2013). In any of these situations there is little opportunity for the dialogue to be co-constructive; and it thus fails to draw on the unique expertise, curiosities or experiences of the participants. Cooper *et al.* highlight this as a failure of 'receptivity' in which one is not 'open to receiving something 'outside of' [ourselves]: something radically *other* to [our] own assumptions and understandings' (2013, p. 73).

In the 'Coaching in Secondary Schools' project it was clear that the coaches had limited language through which to understand, analyse and develop their practice; and more recent (unpublished) research with mentors in newly formed Teaching Schools, suggests a similar problem. Under current English educational policy the network of Teaching Schools will grow; and each is expected (under the School Direct scheme) to take responsibility for recruiting and training significant numbers of trainee teachers across their alliances each year. Indeed School Direct allocation is not limited to Teaching Schools. Hobson and Malderez (2013) express reservations about this policy direction, citing research which demonstrates that despite two decades of universities and schools working in partnership for initial teacher education, which has positioned school-based mentors in pivotal roles, mentoring too frequently remains a weak point in many student teachers' initial career development experiences, and does not always

support quality outcomes. They suggest that these failings in mentoring occur at national policy level (for example created by the accountability culture endemic in schools), meso-level (often due to failure to support mentors at school level) and micro-level (for example mentors adopting a restrictive model of 'feedback' following lesson observations). In terms of dialogue, present structures retard the development of 'internally persuasive discourse', the Bakhtinian concept which underpins embedded learning (Cooper *et al.* 2013). It is at this micro-level of personal and inter-personal learning that the Coaching Dimensions as a tool has the potential to be transformative; but the impacts may only be sustained when policies and practices at all three levels become integrated.

The four cases cited above illustrate that the Coaching Dimensions offer a useable 'language', and our analysis of this suggests that this allows them to be conceptualised as a tool in socio-cultural terms. As such the scrutiny of their own practice using the dimensions allowed the teachers to redefine and refine the discourse and goal of their professional dialogue. Hemmings *et al.* (2013) describe practice as a social site with 'practice landscapes', and 'practice traditions' (p. 475). They draw on earlier works (Kemmis and Grootenboer 2008, Kemmis and Heikkinen 2012) which cite semantic space' as part of practice architecture; which they suggest is intersubjectively linked to 'physical' and 'social' spaces. The semantic space of professional dialogue constitutes the choice of words in the questions, responses, narratives and reflections and this relates to the considered intention of the participants, or the less considered routines of dialogue or the urgent scrambling for conversation to fill gaps. The semantic space is also made up of the balance of participation in the conversation, the tone with which phrases are uttered and the meaning that is made by the discussants. The detail of these can easily over-looked in the hurry to conduct and account for episodes of coaching, mentoring or professional dialogue. Hemmings *et al.* (ibid) propose that the complex practice architecture shapes unfolding practices, but does not pre-determine them. By providing a language-based tool to describe different elements of the dialogue the Coaching Dimensions allow what is easily over-looked to be more readily worked upon. By unpicking the interaction functions, Jenny (for example) was able to focus on developing her repertoire as a coach, whereas Jane became aware that she was somewhat compromising the range of functions of her coaching because of her anxiety to keep the conversations brief. Paying attention to

'scale' allowed Louise, Mary and Linzi to note its significance in the productivity of their respective conversations.

Of course, in all the cases illustrated the conversations had to be recorded and analysed; processes unlikely in normal situations. What unites the cases is the teachers' intention not to just repeatedly engage in coaching or mentoring practices but to work at practice development. In terms of Cultural Historical Activity Theory the object has been shifted, and the shift is at least in part achieved by the direct application of 'tools', and through self-study a change in the 'division of labour'. The Coaching Dimension 'tool' is a means by which the perspective is changed; and these teachers shifted their attention. They were not simply assuming that their engagement in professional dialogue would effect change in teaching behaviours of their colleagues, instead they became aware of the nuances of professional dialogue, and how the nature of that dialogue was more or less likely to lead to professional development. As such they developed greater metacognitive awareness of themselves in their selected role. The use of the Coaching Dimension tool as a lens, a scaffold, a measure or a frame led to an internalisation of the concepts that underpinned them; thus facilitating not just reflection on practice, but reflection in practice. The tool often triggered a questioning stance, leading the teacher in an *enquiry into their own practice as coach or mentor; and thus creating* a 'transaction with the situation in which knowing and doing are inseparable' (Schön 1983, p. 165).

In Deweyan terms, of tools as 'technologies', the application of the Coaching Dimensions in the analysis of practice has changed the nature of the activities. Evidence from these cases suggests that the teachers have re-framed their experiences, using this re-framing to re-focus subsequent practice or to understand the affordance and limitations of existing practice. The tool interacts with the individual agency of the teacher; giving them a chance to determine which aspects of the information gleaned (feedback) to prioritise and to make an evidence-based decision about whether to alter practices as a result. The use of the tool does not therefore force the coach or mentor to relinquish active decision making (unlike a 'toolkit' which can be considered to offer models of practice to follow related to pre-supposed conditions). Working on practice development of professional dialogue through self-study mediated by the Coaching Dimensions is thus distinctly different to changing practice through whole-sale adoption

of a new ‘model’ for coaching. This contrast between tool and toolkit is perhaps the greatest challenge in supporting teachers not engaged in research related activity to use the coaching dimensions to understand and work on their practice. They do not offer a quick fix or rule book, but they have generated a language through which professional dialogue practices can be discussed. Experience of working with wider groups of teachers suggests that simply being able to name and recognise conversational features of coaching and mentoring can be a powerful incentive to them to reflect on experience and become more conscious of the characteristics of their practice.

A further challenge is in demonstrating that working on and refining coaching and mentoring, as illustrated by these cases, translates into changes in classroom practices. This is certainly an area with substantial scope for further research, although it must be acknowledged that establishing causal relationships might be problematic as coaching and mentoring rarely happen in isolation from other professional development initiatives. To date the best evidence of a link between coaching enhanced in these ways and classroom practices is probably found in the original research report (Lofthouse *et al*., 2010a), which gave examples of teachers (coachees) reflecting on the impact. These examples suggest that the coached teachers felt can more reflective in action, were conscious of adopting more considered teaching approaches, and were aware that they were dipping in to recollections of coaching conversations when making decisions at both planning and teaching stages.

As schools in England are expected to undertake new roles and accept new responsibilities for teacher training and development as Teaching School alliances, and with the rapid expansion of School Direct Initial Teacher Training, the expectations of quality assurance of provision are being heightened. In our performative education culture it is easy to foresee quality assurance becoming a pedantic process, one based on counting and accounting for engagement in activity such as coaching and mentoring. There is always the potential, as indicated by Ulvik and Sunde (2013) that a school may not offer much to mentors or coaches in terms of their own professional education, but may neither ask much of them in terms of their professional development for the role. In this scenario mentoring and coaching may occur, but benefits to individuals and the organisation may be marginal. To secure best practice it will be important to question what ‘quality’ of practice is being assured; and how practitioners as participants can

enable meaningful practice improvement. As a dynamic epistemic tool, the Coaching Dimensions offer one such opportunity. Ulvik and Sunde (ibid) concluded that many of the teachers undertaking mentor education struggled to recognise their role as carrying distinctive professional characteristics. By working on their own practice, applying tools such as this to their direct experience, teachers acting as mentors or coaches may overcome this struggle, and thus help address the gap in coaching and mentoring quality found by Lofthouse and Leat (2013), and Hobson and Malderez (2013).

These case studies strongly support the idea that the coaching dimensions work as a catalytic tool for mentors and coaches. Whether used purposively or in post-hoc reflection, the dimensions allow teachers the opportunity to engage with the complexity of their practice without being overwhelmed. Since each practitioner can choose which elements to privilege but cannot blind themselves to the range of potentially important factors, development is at the productive edge of comfort and challenge. To maximise the value of professional dialogue (in its various forms) as a professional development resource it is critical that when conversations between colleagues can be scheduled they are productive and thus have the potential to impact on teachers' future practice, professional knowledge and understanding. The Coaching Dimensions provide a tool through which teachers can analyse and reflect on their practice; and through which to talk with peers about how their practice is developing. In doing so, coaches and mentors can increase their metacognitive awareness of dialogic skills that enhance conversations. This can help them to plan for, and be more responsive within coaching and mentoring meetings; opening up significant opportunities for to engage in professional learning themselves as well as to support others.

References

Bassey, M., 2012. Case Studies. In: Briggs, A., Coleman, M., & Morrison, M. (Eds) (2012) *Research Methods in Educational Leadership and Management 3rd Edition*, Sage

Bruner, J., 1984. Vygotsky's zone of proximal development: the hidden agenda. In: B. Rogoff, B. and Wertsch, J. (Eds.) *Children's learning in the 'zone of proximal development'.* San Francisco: Jossey-Bass

Cooper, M., Chak, A., Cornish, F. and Gillespie, A. 2013. Dialogue: bridging personal, community and social transformation. *Journal of Humanistic Psychotherapy* 53 (1), 70-93.

Cordingley, P., Bell, M., Evans, D and Firth, A. 2005. *The impact of collaborative CPD on classroom teaching and learning.* London: EPPI Centre.

CUREE, 2005. *National Framework for Mentoring and Coaching*, available at: http://www.curee-paccts.com/files/publication/1219925968/National-framework-for-mentoring-and-coaching.pdf [Accessed 25th August 2013]

Dewey, J., 1938. *Logic, the Theory of Enquiry. The Later Works of John Dewey*, vol.12 edited by Jo Ann Boydston. Carbondale and Edwardsville: Southern Illinois University Press.

Engeström, Y., 1999. Activity Theory and Individual and Social Transformation. In: Engestrom, Y., Miettinen, R. & Punamaki, R-L. (Eds), *Activity Theory and Individual and Social Transformation.*Cambridge University Press: Cambridge, 19-38.

Engeström, Y., 2001. Expansive Learning at Work: Toward an activity theoretical reconceptualization, *Journal of Education and Work*, 14 (1), 133-156.

Hall, E., 2011. Enacting change in classrooms. PhD thesis. University of Newcastle.

Hemmings, B., Kemmis, S. and Reupert, A., 2013. Practice architectures of university inclusive education teaching in Australia. *Professional Development in Education*, 39 (4), 470-487,

Hobson, A.J. and Malderez, A., 2013. Judgementoring and other threats to realizing the potential of school-based mentoring in teacher education. *International Journal of Mentoring and Coaching in Education*, 2 (2), 89-108

Jewett, P. & MacPhee, D., 2012. A dialogic conception of learning: collaborative peer coaching, *International Journal of Mentoring and Coaching in Education*, 1(1), 12-23

Kemmis, S. and Grootenboer, P., 2008. Situating praxis in practice: practice architectures and the cultural, social and material conditions for practice. In: S. Kemmis and T.J. Smith, eds. Enabling praxis: challenges for education. Rotterdam: Sense Publishers, 37–64.

Kemmis, S. and Heikkinen, H.L.T., 2012. Practice architectures and teacher induction. In: H. L.T. Heikkinen, H. Jokinen, and P. Tynjälä, eds. Peer-group mentoring (PGM): peer group mentoring for teachers' professional development. London: Routledge, 144–170.

Knezic, D, Wubbels, T., Elbers, E. and Hajer, M., 2010. The Socratic Dialogue and teacher education. *Teaching and Teacher Education* 26 (4), 1104–1111

Knorr-Cetina, K., 2001. Objectual practice. In: Schatzi, T.R., Knorr-Cetina, K. and von Savigny, E. (Eds.) *The Practice Turn in Contemporary Theory*. Abingdon: Routledge.

Larsson S., 2009. A pluralist view of generalization in qualitative research. *International Journal of Research & Method in Education*, 32 (1), 25-38

Leat, D., Lofthouse, R., and Towler, C., 2012. Improving coaching by and for school teachers. In: S.J. Fletcher and C.A. Mullen, eds. The Sage handbook of mentoring and coaching in education. London: Sage, 43–58.

Lofthouse, R. and Leat, D., 2013. An activity theory perspective on peer coaching. International journal of mentoring and coaching in education, 2 (1), 8–20.

Lofthouse, R., Leat, D., and Towler, C., 2010a. Improving coaching: evolution not revolution. Reading: CfBT Education Trust.

Lofthouse, R.,., 2010b. Improving teacher coaching in schools; a practical guide. Reading: CfBT Education Trust.

Newton, J., 2013. Can coaching influence the delicate matter of behaviour management in the classroom. M.Ed Practitioner Enquiry dissertation. University of Newcastle.

Pedder, D., Storey, A. and Opfer, V.D., 2008 *Schools and continuing professional development (CPD) – State of the Nation research project,* A report commissioned by the Training and Development Agency for Schools, Cambridge University and the Open University.

Schön, D., 1983. *The Reflective Practitioner: How Professionals Think in Action*. London: Basic Books.

Stewart, J., 2011. Does the analysis of coaching evidence support a developing coach? M.Ed Practitioner Enquiry dissertation. University of Newcastle.

Ulvik, M. and Sunde, E., 2013. The impact of mentor education: does mentor education matter? *Professional Development in Education,* 39 (5), 754-770

Vygotsky, L., 1978. *Mind in Society – the development of higher psychological processes*. Cambridge MA: Harvard University Press